I024752
-001

Fw: Tale of the Oregon dog and rat poison
Robert Miller to: Norman Spurling 12/05/2012 07:39 AM

From: Robert Miller/DC/USEPA/US
To: Norman Spurling/DC/USEPA/US@EPA

Norm,

The woman who wrote this story of her dog being poisoned works for the Oregon Dept. of Agriculture and will hopefully submit more ecological incidents incidents in the future.

Bob

Robert A. Miller
EIIS Database Manager
Environmental Fate and Effects Division
Office of Pesticide Programs
United States - Environmental Protection Agency
1200 Pennsylvania Avenue, N.W., Washington D.C.
Mail Code: 7507P
Phone: (703) 347-8012

----- Forwarded by Robert Miller/DC/USEPA/US on 12/05/2012 07:34 AM -----

From: Rose Kachadoorian <rkachadoorian@oda.state.or.us>
To: Robert Miller/DC/USEPA/US@EPA
Date: 12/04/2012 02:46 PM
Subject: Tale of the Oregon dog and rat poison

Attached is the story I wrote for the National magazine in 2008.

Rose Kachadoorian
Pesticide Registration and
Endangered Species Specialist
Pesticides Division
Oregon Department of Agriculture
635 Capitol St. NE, Salem, OR 97301
503/986-4651 Phone, 503/986-4735 Fax
Email: rkachadoorian@oda.state.or.us
Web Page: http://oregon.gov/ODA/PEST/

Personal privacy information

2008

Rat Poison and the Corgi

[redacted] my 3 1/2 year old Pembroke Welsh Corgi, recently almost died from eating rat poison. There is some perverse irony in the situation because I work for a governmental agency in which I am considered the rodenticide expert. I am grateful for the opportunity to share my personal story.

[redacted] and I took our two Pembroke Welsh Corgis to visit a friend (whom I shall call L.S.) in Portland. L.S. lives in an older home in a heavily wooded area. [redacted] in particular likes to visit this friend because she loves to "go mousing" in the brush and tall grass. Over the years, L.S. complained to me about rodents (mice, wood rats etc.) periodically coming into the garage and basement. Despite her efforts to keep the house tidy, properly store all dog food, use snap traps etc., rodents continued to be a problem.

I recommended for L.S. to use a rodenticide bait to control the rodents. I suggested for her to buy the waxy solid bars verses the loose pellets in a bait box); and to use a type containing an active ingredient with a lower possibility of secondary poisoning. For example, Chlorophacinone and Diphacinone - both multiple dose first generation anticoagulant rodenticides. Because L.S. lives in an area with hawks and owls, no one wanted to take the chance that a mouse would eat some of the bait, and a predatory bird would eat the sick mouse. Anticoagulants are a type of rodenticide which interfere with blood clotting, death can result from excessive bleeding. Rodenticides can pose risks to wildlife (including dogs) from primary exposure (directly eating bait) and secondary exposure (predators or scavengers consuming prey with rodenticides present in body tissues).

We knew the day we visited L.S. (Sunday) that she had recently purchased some new rodenticide and placed it in various locations. She assured us that she had picked it all up. L.S. has two very large and old dogs. Our two corgi girls [redacted] and [redacted] are both curious, active and under 4 years old. In hind sight, I should have asked her what type of rodenticide she purchased (loose pellets or solid bars). I later found out that she had used D-Con pellets containing brodifacoum. Brodifacoum is a highly toxic single dose anticoagulant which has been linked with both primary and secondary poisoning.

The next day I left to go back to Salem, and [redacted] had the dogs in Portland for the next four days. A day or two after the visit to L.S.'s house, [redacted] noticed that [redacted] stools were an unnatural bluish-green and looked like play-dough. She felt uneasy, but thought that it was probably just the green beans that [redacted] ate. However what she did not know at the time was that the blue color was a dye in the rodenticide.

I noticed on Saturday morning that [redacted] was a bit lethargic and appeared to be gaining weight. I thought maybe it had something to do with the fact that she started her season Friday night (I initially overlooked that the blood was unusually dark). I had been waiting for her to come into season because I was going to breed her for the first time. She seem tired, needy (ears down) and a bit grouchy with her corgi friend [redacted] although [redacted] seemed to be kissing her a lot. [redacted] was eating, urinating and defecating just fine. However she did not want to take an evening walk on Saturday. That night I noticed that she was starting to drink an excessive amount of water and was panting. She did not want to sleep on my pillow as usual. Very early Sunday morning she started prodding me and would not let me sleep. She would not lie down and would stare at me, nudging at me. I touched her upper abdomen and she cried out in pain. I knew something was seriously wrong. Because it had been almost a week since we had visited L.S., I did not immediately think that she was dying from rodenticide poisoning. Unfortunately, I had forgotten that, with certain anticoagulant rodenticides, it is not uncommon for it to take 2-7 days before symptoms are exhibited (including death). At work, I usually deal with non-anticoagulant rodenticides (zinc phosphide and strychnine).

<u>The Vet Visit</u>

We took her to the emergency vet (Vet #1) and they thought she had gorged on food because the x-rays showed a lot of food in her stomach. This was odd because she does not have free access to food and is not normally off leash. The vet also thought she had eaten something (raw hide etc.) that might have created a blockage. They induced vomiting but, no luck. They ran some routine blood work and did a barium test (to see if things were moving through her system properly), gave her antibiotics and hooked her up to an IV. Vet #1 seemed 100% sure that it was stomach related. Vet #1 did not mention to me that Lily's temperature was low and her gums were pale. Lily was also coughing a little - but not a lot. They did an enema and there was mucous and a small amount of blood in her feces. According to the vet, it appeared that something was irritating her GI tract (I now know she was bleeding to death internally). I mentioned rodenticides to the Vet #1, but she immediately dismissed that as a possibility, and appeared to refuse to think beyond GI tract issues.

Over the hours, she got worse, and worse. On the next x-ray of her stomach area, they noticed fluid forming around her heart and in her lungs. Her breathing was labored and loud, and they put her in an oxygen chamber. She was clearly dying.

The new emergency room vet (there was a shift change) wasn't thinking just stomach problems (unlike Vet #1). Vet #2 took a sample of the fluid around her heart, but it did not contain blood. Yet there was an unusual amount of blood

leaking from the needle wound. Her stomach area appeared even more bloated. She really looked like she was gaining weight before my eyes, and she had quit urinating. I mentioned rodenticides again. Vet #2 asked if Lily had been anywhere within the last 5-7 days where she could have had access to rodenticides. I replied yes.

They ran coagulation tests. Her prothrombin time (PT) was out-of-range (normally less than 8 seconds), PT measures the functional activity of the coagulation factors. Her "activated partial thromboplastin time" (APTT) was 313 (normal is 71-102)

In response to the test results, they gave her plasma (with the coagulation factors), and the antidote vitamin K1. Within a relatively short time, she was sitting up and appeared in good spirits.

At Home

Lily was put on oral Vitamin K1 for approximately three weeks. Anticoagulant rodenticides interfere with vitamin K1 hydroquione recycling, causing K1 depletion. Vitamin K1 hydroquione is required for the synthesis of functional forms of certain clotting factors. My regular vet also placed her on antibiotics to reduce the possibility of infection occurring.

To promote liver health, I also gave her Denosyl® (S-Adenosylmethionine), and some homeopathic medications. She appears OK (recent blood tests look great), but I know that this rodenticide is eliminated over time and is stored in low levels in certain tissues (esp. the liver and pancreas). Lily has also had a few acupuncture treatments to promote liver strength.

How Did This Exposure Happen?

Certain rodent species, especially females, cache (hoard) food, including pellets. I believe that some rodent took the loose pellets from the cardboard D-Con bait box, and placed them in an area that was accessible to sniffing and always hungry Lily. It would have been very difficult, if not impossible for a rodent to move an entire large bait bar/block, but pellets are easily transported.

My suggestion to dog owners are:

- Only use rodenticides, and other pesticides if necessary. Metaldehyde, the active ingredient in many slug baits is also very attractive to dogs.
- Avoid using rodenticides formulations such as pellets and granulars, that can be transported to uncontrolled/unknown locations, or easily spilled. Because of new EPA requirements (May 2008), in the future (approx. 3 years from now), loose bait such as pellets will not be available for sale to

general and residential consumers. Residential consumers will only be able to purchase bait blocks in baited bait stations to control rats and mice.

- Avoid using active ingredients that are single feed and can more readily kill your dog (such as brodifacoum and bromadiolone). Because of new EPA requirements (May 2008), in the future these two rodenticides as well as difenacoum and difethialone will be only sold in large package sizes, and sold through farm supply type stores, rather than typical consumer outlets (ex. grocery or hardware stores).
- Never mix a pesticide (including rodenticides) with another substance to make it more attractive to rodents (unless this use is allowed on the label).
- Insure that baits are truly out of the reach of any non-target animals (birds, dogs etc.).
- Keep your dog under watch. There are instances where people illegally mix a rodenticide such as strychnine with meat to kill coyotes, and unintentionally kill their neighbor's dog.
- Do not wait to take your dog to the vet. If you suspect at all that your dog has eaten rodenticides, do not wait for symptoms to develop. If possible, take the rodenticide package to the vet with you. This will help your vet determine the active ingredient. In the State of Oregon alone, there are 260 rodenticides registered for sale.
- Report to your vet if it appears that your dog has eaten something an unnatural color. You may see bluish-green staining in the mouth, or find stools that are blue or green. Let your vet know if your dog could have had access to rodent or slug bait (both are commonly colored a bright blue, or sometimes green).
- For those interested in reading more on EPA's risk mitigation measures, go to: http://www.epa.gov/pesticides/reregistration/rodenticides/finalriskdecision.htm